THE MAC Flyer

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THE MAC Flyer

For Greater Safety in MAC Air Operations

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Disaster looms with the arrival of...

Graffer

by Captain Michael A. Vinskey
50 TAS
Little Rock AFB, Arkansas

I was still fairly new to the squadron when I saw him for the first time. As he passed through the door, a cold blast of December air came with him. I felt a shiver down my spine. He walked past me and for some reason I couldn't help staring at him. He looked evil and appeared to be the devil's twin. He was relatively tall, and very skinny. His arms and hands were thin and bony. He had a long sharp nose, sunken cheeks, and thin pale lips. It looked as if he hadn't eaten for weeks! His eyes matched his hair and were midnight black. I knew it wasn't just his looks that gave me the creeps, but I couldn't figure out what it was.

Walking back to my desk I couldn't get him out of my mind. Why was he here? Was he going to stay long? Why did I feel so uneasy around him?

A couple of weeks later, Graffer, as I learned he was called, had settled into the squadron. A few people had tried to talk to him about his previous assignments, his family, his hobbies, and other personal topics, but they always came away from the conversation more confused about him than when they started. It seemed he had come from nowhere.

About this time strange things started to happen. Major Clearwater was flying with Graffer one night on a local proficiency sortie.

"We'd been flying for almost 5 hours and had done a bunch of instrument approaches," as the major described it, "a couple of touch-and-go's, and several low approaches. I was getting a little tired. We had just done a landing, cleaned it up, set up on downwind, and I guess that's where I started to daydream. The next thing I knew we were cleared to land. I thought, great! This is the last landing we need. I'll make it a full stop and we'll be done for the night. I rolled out

on final and got all trimmed up. Things were looking good. Over the approach lights I made my usual final check on the gear. I could have died! The handle was up, the light was on, and the indicators showed gear up. We immediately did a go around. I got settled down again and looked over at Graffer. I assumed he would have caught such a major error. He said absolutely nothing and just looked back at me with that expressionless face of his. I was mad, but knew I was at fault for not paying attention. That's the last time I'll let my mind wander while I'm flying."

When I heard this story I didn't think too much about it. Lots of people have tried to land gear up, and more than a few have

Third Place, 1983 MAC Flying Safety Writing Contest

succeeded. But usually an unexpected gear-up landing occurs in conjunction with an emergency or some type of distraction on board. What prevented a highly qualified instructor pilot with over 3,000 flying hours from following checklist procedures? And why hadn't Graffer caught the mistake? It seemed as if he *wanted* the major to land gear up.

Two days later Graffer was flying on another night trainer. This time the crew found themselves in a more serious situation. Staff Sergeant Budda, the flight engineer, gave me the details.

It seemed as if Graffer wanted the major to land gear up

They were about 8 hours into a 10 hour navigation training mission when thick black smoke started billowing up from under the flight deck. It was IFR at the time at FL 250. The pilot gave the command to go on oxygen. Budda did so, but once he checked in, he couldn't for the life of him remember the procedures for an electrical fire or smoke and fume elimination. As he fumbled around in his checklist for the appropriate page, the cockpit continued filling with choking, foul smoke. The loadmaster reported visible flames under the flight deck and he attempted to extinguish the fire with the available hand fire extinguishers, but the flames were too intense. The pilot was fighting to stay straight and level, with the attitude indicator, by now, almost unreadable because of the smoke.

Budda was certain they all were going to die and, in a last ditch effort to control the fire, began turning off every switch he could get his hands on. After almost every switch in the cockpit was off, the loadmaster reported the flames were out, but the smoke was still hanging heavy. Somewhat relieved, Budda found his smoke elimination checklist and cleared the cockpit of the remaining smoke. As Budda related, "I finished the checklist, calmed down, and started trying to remember exactly what had happened. I was looking around the cockpit making notes on different items when I noticed Graffer's checklist. It was opened to the page I had been looking for. There it was in black and yellow: 'Electrical Fire and Smoke and Fume Elimination.' I asked him why he hadn't pointed it out to me while I was fumbling around trying to find it in my checklist. He just looked at me and grinned. I thought I knew those procedures cold."

Talking with Sergeant Budda later, I found out that even though he had almost 2,000 hours in the airplane, he hadn't been flying too much recently because of a project he was working on for the squadron. He admitted that it had been quite a while since he had reviewed his emergency procedures. He also said he wasn't satisfied with his last simulator checkride and had promised himself to review a few potentially weak areas, but he just hadn't had the time to get around to it yet. I was sure he would find the time now.

So, another bad ride with Graffer on board. Interesting! I wondered why all of a sudden so many problems occurred whenever Graffer flew. I knew the squadron's safety record had been outstanding for the past several years. The squadron hadn't changed that much. We had our share of new people, along with a healthy number of old timers, and a good deal of those in between. The squadron safety program was an active and on-going affair. If seemed the only variable was this new guy, Graffer. My feelings intensified the following week.

Captain Matt Stevenson had upgraded to aircraft commander as a first lieutenant 6 months ago. Since then he had accumulated about 200 hours in the left seat and had made captain. He had always been a cocky sort; the type of person who always had a sure answer, but was frequently wrong. He made quick decisions, but they weren't always the best ones.

He was on a low-level mission with Graffer on board. Things were going well until about halfway around the route. They were flying contours at about 500 feet when a debate on how low they were flying began between the navigator, Captain Freearmend, and Stevenson. According to the nav, Stevenson continued to fly lower and lower into the valleys while just skimming the ridgelines, well below the authorized minimums. The navigator stated several times

that Stevenson was going too low. Stevenson merely replied that he knew what he was doing, that he was the pilot in command, and that the "navigator" should concern himself with navigator duties and leave the flying to a qualified pilot.

They continued to skim the tree tops in this manner. Each time Freearmend would state that they were going too low and should climb. Stevenson wouldn't listen. On one of the next ridgelines there was a loud bang and the airplane shook. They started a climb. Stevenson figured they had probably hit a bird. There was no doubt in Freearmend's

"Stevenson, you just about killed us all."

mind that the only way they could have hit a bird was if it had been sitting in a nest. They aborted the rest of the route and returned to the base. Once parked, they looked at the airplane and, sure enough, there were signs of having hit several trees. Scrape marks and splinters covered the entire underside of the fuselage and wheelwells. Part of the underbelly was severely dented and a few panels were torn away.

"Nice going Stevenson," Freearmend said, "you just about killed us all."

"Hey, look, I'm really sorry you guys," Stevenson apologized. "I really didn't think I was that low. I felt I was still in control. No offense nav, but I thought you were being a real sissy about the altitude."

Stevenson turned to Graffer and asked, "Did you think I was too low?" Graffer didn't say a word. He smiled his evil little smile and walked away.

So once more Graffer was involved in a potentially deadly situation. I wondered again why everything was happening when he was along. I thought I'd do some checking.

I looked up the phone number of his old squadron and gave them a call. A captain there had never heard of anyone by that name. On a hunch, I asked about his unit's safety record. He told me of several accidents that had occurred about 12 months ago. He said most of them had been caused by crew error. But ever since they started a program to encourage their crewmembers to review systems and procedures, they hadn't had an accident. I thanked him for his help and hung up. Why didn't the captain know who Graffer was? I decided to check at the squadron and went through all their records looking for anything on Graffer. There wasn't a single scrap of paperwork on him—anywhere.

I went over to personnel and found my friend, Second Lieutenant Sally Singleton. I explained the situation to her. She was at first reluctant to help but then relented. A short time later she returned.

"How long has this guy been in the squadron?" she asked.

"He's been here almost 4 months now," I replied.

"That's pretty funny. We haven't got a thing in the computer on him. I know it would show up if we did."

Then it hit me. Everybody has a pay record. When someone transfers from one base to another the old base sends that individual's pay records directly to the new base. There is no way the records can get misplaced.

A sergeant at the finance office was willing to look and see if they had a record on Graffer, but he wasn't about to let me see it. I told him that would be fine. I just wanted to know if they had his records. The sergeant was gone for quite some time. When he came back he had a puzzled look on his face.

"You say this person is definitely in your squadron?"

"That's right. He's been around for almost 4 months," I replied.

"It's really strange. If you say he's in the squadron then we should have a record on him, but there's nothing there."

I thanked him for his time and told him not to worry about not having the record. At this point I knew there was no agency on base that would have a record on Graffer. *There was no such person.*

It was getting late so I headed for home. I figured I would spend the evening trying to sort out this whole Graffer situation and talk with Lieutenant Colonel Strack, my squadron commander, about it tomorrow. Then I remembered Colonel Strack was scheduled to fly with Graffer tonight. The close calls we'd

had in the past few weeks flashed through my mind. Everyone who had flown with Graffer so far had been lucky they weren't killed or injured. But how long would that luck last? I had to warn the colonel.

No one had been killed. But how long would the luck last?

I raced down to the squadron. No one from the crew was there. They must have already gone out to the airplane, I thought to myself. I grabbed the keys to the squadron truck, checked the board for the crew's parking spot, and ran out the door.

When I got to the aircraft they were about to start engines. I climbed on board and in the process got everyone's attention. The colonel turned and asked what was going on as I caught my breath and wondered where to start.

"Colonel, you're going to have to find someone to go in Graffer's place tonight."

"What do you mean by that?" the colonel asked.

"He doesn't exist. He really isn't here," I found myself saying.

"I don't think you're all here," was the colonel's gruff reply.

I calmed myself and started to explain. "You're aware of all the close calls we've had in the past several weeks whenever Graffer was flying. I started to wonder why they were always occurring when he was on board. I thought someone at his old unit could fill me in on him. When I called, no one there had even heard of a Graffer before. Let me explain."

All of a sudden Graffer spoke, "Don't bother. I'll explain. It's true I don't exist, except in the actions of people. I'm that part of people that doesn't pay attention to what they are doing while they're flying. These people who forget to do the routine things that they have been doing for years. I exist in the flyers who don't study their publications quite enough to be safe in their airplanes—those who never seem to have the time to review and practice procedures. I'm the part that makes the wrong decision and uses poor judgment. I'm those people who go beyond their limits and don't even realize it. I'm the part of crewmembers who bend the rules just a little because it won't really hurt this time. I'm the carelessness, laziness, overconfidence, poor judgment, complacency and immature attitude that exists in all of you."

"I'm surprised at how quickly you found me out. It usually takes a unit much longer than this. Often I can get two, three, and maybe even four people to kill themselves or others before I'm found out. I guess it's time I moved on to another unit. Just remember, I never completely go away. I fly with every crew on every mission. It only depends on how professional the crew is as to whether or not they can see me. Don't ever forget that!"

With that he was gone.

ABOUT THE AUTHOR

After graduating from the U.S. Air Force Academy in 1979, Captain Mike Vinskey attended undergraduate pilot training at Williams AFB, Arizona. He is presently a C-130 aircraft commander with 1,450 hours flying time with the 50th Tactical Airlift Squadron at Little Rock.

Flying-Hour Milestones

10,000

Maj Michael W. Graves, 158 TAS
SMSgt Charles M. Escue, 115 TAS
SMSgt Robert E. Michalak, 115 TAS
SMSgt Robert A. Quinn, 115 TAS

5,000

Brig Gen Russell E. Allen, 146 TAW/CC
Col Emiel T. Bouckaert, 146 TAW/CV
Lt Col Raymond F. Besecker, 139 TAS
Lt Col Robert H. Billings, 115 TAS
Lt Col Tandy K. Bozeman, 115 TAS
Lt Col Myron B. Carpenter, Jr., 115 TAS
Lt Col Eugene J. DeVriendt, 115 TAS
Lt Col William C. Enniss, 934 TAG
Lt Col John B. Goodwin, 301 ARRS
Lt Col Jack H. Greer, 9 MAS
Lt Col Ronald V. Growden, Det 4, 1402 MAS
Lt Col Ronald J. Hess, 115 TAS
Lt Col Leon K. Hofford, 115 TAS
Lt Col Dale E. Knuth, 55 WRS
Lt Col Edward M. Leete, 30 MAS
Lt Col Dale M. Lutz, 115 TAS
Lt Col Terry A. Schmidt, Det 2, 1402 MAS
Lt Col Philip A. Sheldahl, 115 TAS
Lt Col Byron L. Smith, 115 TAS
Lt Col William E. Sprauge, 115 TAS
Lt Col Loren G. Steinbrink, 115 TAS
Lt Col Seigi Tamura, 115 TAS
Lt Col Ernest R. Webster, 301 ARRS
Lt Col David T. Woolsey, 115 TAS
Maj John M. Armstrong, 115 TAS
Maj Gerald A. Black, 701 MAS
Maj Dan R. Braun, 701 MAS
Maj David E. Byrne, 53 MAS
Maj William L. Cole, 68 TAS
Maj Gerald A. Davis, 934 TAG
Maj Clyde T. Doheney, 115 TAS
Maj Richard S. Dunlap, 300 MAS
Maj Robert B. Galbreath, 115 TAS
Maj Anthony V. Ellington, 158 TAS
Maj Loran L. Gehres, 301 ARRS
Maj Robert L. Hutchinson, 115 TAS
Maj Kraig K. Kelly, 115 TAS
Maj Calvin L. Kilby, 158 TAS
Maj Thomas R. Morgan, Jr., 158 TAS
Maj Raymond E. Powell, 774 TAS
Maj Harlan J. Quamme, 300 MAS
Maj William C. Reeves, 158 TAS
Maj William H. Valentine, 707 MAS
Maj Gary F. Van Overmeiren, 58 MAS
Maj William J. Verdoorn, 56 MAS
Maj Harold W. Weber, 300 MAS
Capt Ronald S. Gambrell, 301 ARRS
Capt Paul K. Gewalt, 55 WRS
Capt Roger L. Woolard, 301 ARRS
SMSgt Richard R. Fuller, 707 MAS
SMSgt William J. Marley, 115 TAS
SMSgt Adolph L. Padilla, 115 TAS
MSgt Frederick R. Allen, OL-AE, 317 TAW
MSgt Jack H. Anderson, 707 MAS
MSgt Richard C. Briggs, 115 TAS
MSgt Andre W. Brock, 774 TAS
MSgt Frances L. Dugas, 701 MAS
MSgt John L. East, Jr., 115 TAS
MSgt Wrynn W. Guenther, 115 TAS
MSgt Karl G. Knobel, 300 MAS
MSgt Gerald J. Lincoln, 300 MAS
MSgt Lawrence C. Mallory, 115 TAS
MSgt Freddie L. Middlebrooks, Jr., 30 MAS
MSgt Kenneth E. Owens, 707 MAS
MSgt John B. Rigdon, 30 MAS
MSgt Jackson T. Soffa, 115 TAS
MSgt Lee A. Stephens, 30 MAS
MSgt C. E. Williams, 183 TAS
MSgt Richard E. Wolf, 701 MAS
TSgt Arlo W. Groth, 57 MAS
TSgt John K. Campbell, Jr., 6 MAS
TSgt William R. McCollum, 115 TAS
TSgt Robert D. Jarvis, 6 MAS
TSgt John J. L. Lambeth, 9 MAS
SSgt William H. Taylor, 30 MAS

2,500

Major Gary N. Barber, Det 1, 37 ARRS
Maj Jack E. McPhie, Det 9, 37 ARRS
Maj Eemon C. Thompson, Det 9, 37 ARRS
Capt Michael E. Reich, Det 6, 37 ARRS

Ranks and units are those at time of award. See MACR 900-3 for details on how to apply for your own milestone award.

Flying in the United Kingdom —A MAC Primer

by Captain Randy P. Durham
435 TAW Stan-Eval
Rhein-Main AB, Germany

So, you plan on flying to, in and around "Jolly Olde," eh? Fine! You're really going to enjoy yourself, especially when you park your flying "lorry" for the night. As in any country where you plan to commit an act of aviation, you must review that nation's special requirements, and the United Kingdom is no exception.

The first problem a crewmember faces is location—where is the information? Planning for one flight, and especially your first flight, might include a detailed look at the following: FLIP General Planning, FLIP AP-2 (Theater Procedures and the section on the U.K.), the Enroute Supplement (ENAME), FLIP Enroute Charts, the Flight Information Handbook, the Foreign Clearance Guide and the U.K. Military Low Flying Handbook. To get a better handle on what information to review in which publication, we'll look at them by subject.

Controlled and Uncontrolled Airspace

The first thing to understand is the division of airspace over the British Isles. Basically, controlled airspace is all airspace above FL 245, and the low altitude airway corridors. Uncontrolled airspace is depicted on the low altitude enroute charts as the shaded (brown and gray) areas.

When in controlled airspace, you're required to follow the controller's instructions and full radar service is provided. If you're in uncontrolled airspace, however, you may receive radar service from a destination airfield, a control zone radar or a military regional radar. Each radar facility tries to maintain aircraft separation through radar advisories. Remember, though, in uncontrolled airspace there may be many airplanes in the area talking to no one.

It's possible you may need to cross or join airways from uncontrolled airspace. But don't attempt to cross or join an airway without the proper airways joining clearance,

please. The watchword here is *caution.* Make doubly sure your clearance to join an airway comes from a "controlling agency." A military radar, for instance, doesn't give a clearance to join an airway. Military radar will, on the other hand, coordinate your crossing clearance with West Drayton, which is the unified control center, and take you through controlled airspace under radar control. They'll also hand you over to the civil controller if you are joining airways. Here's an example of how such a clearance might sound over the "wireless."

Herky 37: Eastern, Herky 37. Request clearance to join at Braintree.

Eastern Radar: Roger, Herky 37. Proceed to the Clacton Hold. Call London on 132 decimal 75.

That little exchange was not a clearance to join the airways. It was a clearance to enter the prepublished holding pattern located close to the Clacton VOR. Once you are either established in the Clacton holding pattern or on your way to the holding pattern, you may call London for your airways joining clearance while monitoring Eastern Radar. London will then issue the airways joining clearance.

London Airways: Herky 37, London. Standby to copy airways joining clearance.

Herky 37: London, Herky 37 ready to copy clearance.

London Airways: London clears Herky 37 to join airways at Braintree, FL 150 at time 37.

Now that's a clearance to join airways. But there's also the little matter of flow control. FLIP AP/2 has the answers, so consult it for filing and takeoff time restrictions.

Lowest Acceptable Flight Levels

Flying through England, as I've already shown, is full of differences. Add to this the problem of determining which altitude is correct for your airspace, and which altimeter setting is correct, and you have the potential for an inadvertent collision with either the ground or another plane. First, here are some terms with which anyone flying in England should become familiar.

Transition Altitude: The altitude referred to in terms of feet AMSL (above mean sea level).

Transition Level: Lowest acceptable flight level (QNE).

Transition Layer: Airspace between transition altitude and transition level.

Since in uncontrolled airspace you are under radar advisory instead of radar control, the Air Force doesn't want you flying around in the transition layer. If you did, you could end up in the same airspace with another "heavenly body" on a different altimeter setting. This could ruin your day! The size of the transition layer will normally be between 500 and 1,000 feet, depending on the exact altimeter setting, to give you that much clearance from airplanes on other altimeter settings. For specific details on QNH/QNE altimeter settings and transition levels, consult the Enroute Supplement for Europe, North Africa and the Middle East (ENAME), under the heading of "Transition Altitude-Transition Level in the U.K."

Remember, too, transition altitudes can vary from field to field, and they might not be the same as the regional transition altitude for the region you're in. For example, take RAFs Mildenhall, Honington and Lakenheath. These three airfields use 4,000 feet for a transition altitude, but the rest of the region uses the standard transition altitude of 3,000 feet. If you transition on regional QNH, 3,000 feet is the transition altitude. If you transition on aerodrome QNH for one of the airports mentioned, use 4,000 feet.

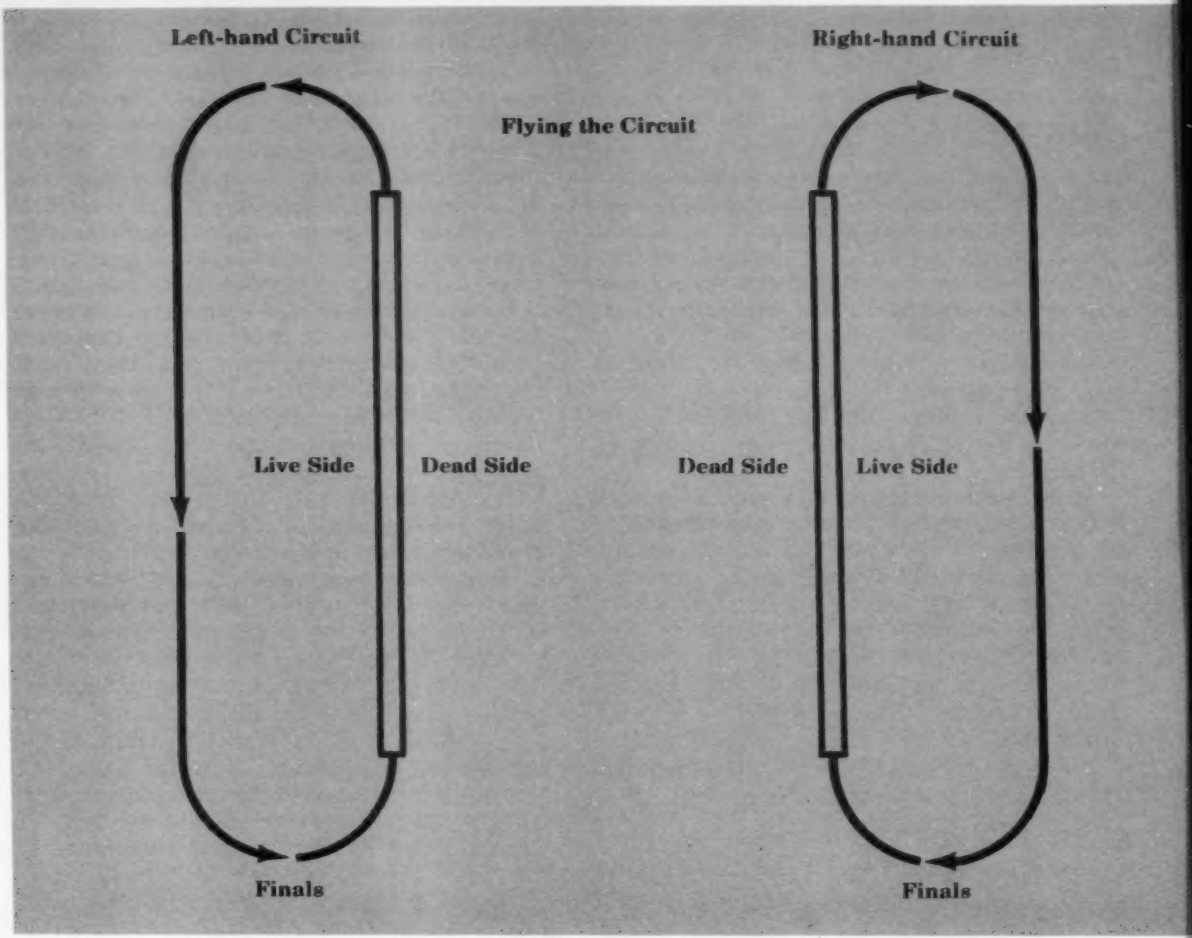
Here's an example of what could happen if you maintain flight level in the transition layer:

You descend to FL 050 on a clearance from Eastern Radar. You're inbound for RAF Mildenhall and approaching the aerodrome area. The Mildenhall QNH is 28.92. Another aircraft departs Mildenhall and levels off at 4,000 feet MSL. Both altimeters are perfect, both dead on 4,000 feet. Result: You meet the other aircraft head on! Why?

Simple, actually. Applying pressure altitude correction to your flight level, you were actually at 4,000 MSL. Correction (C) equals altimeter setting (AS) minus 29.92 times 1,000 feet.

C=(AS-29.92) x 1,000.

If this formula looks familiar, it should be. It is used on CARP (computed air release point) calculations. So, applying today's altimeter setting, we see this: C=(28.92-



29.92) x 1,000= -1,000 feet. Now, then, when we add that correction to our altitude—5,000—we get a true altitude of *4,000 feet.* Bingo!

But controllers do help you out. If the controllers want you to fly a QNE altitude, they'll use the term "flight level," or "Herky 37, maintain flight level 050." This means set 29.92. If they want you to fly QFE (height above the airdrome), they'll state, "Herky 37, maintain 2,500 feet on the Mildenhall QFE." Should they want you to fly a QNH altitude, they'll omit the terms "flight level" and QFE, and the transmission will sound like, "Herky 37, maintain altitude 025 or 2,500." Just remember these terms:

Regional *QNH* (pressure near home)—Fly the regional QNH at or below 3,000 feet MSL when outside controlled airspace and not in the vicinity of an active aerodrome.

QNE (pressure normal enroute)—Set 29.92 when *climbing* through the *transition altitude,* i.e., fly with the Mildenhall QNH until passing 4,000 feet on departure from Mildenhall. Then set 29.92. Fly QNE on arrivals until *descending* through the *transition level.* Transition level is given by the ATIS or the controller and isn't published on FLIP since it is subject to change as the local QNH changes. Here's an example of how an exchange illustrating this point would take place:

"Herky 37, descend to 2,500 feet. Transition level is FL 050."

During your descent, reset your altimeter to QNH no later than FL 050. A point to make here is to use the crew concept to the max. For airplanes with navigators, the nav

should have the ENAME out and ready to back you up on the correct altimeter settings. If you're flying without a nav, then the jump seat, ACM or flight engineer should be able to help you out with the correct altimeter setting for the right altitude.

QFE (pressure field elevation)—RAF and Royal Navy controllers issue only QFE altimeter settings for all landing traffic. (Applies to RAF bases outside the U.K. as well, such as Gutersloh, Germany.) Remember, if you set QFE in your altimeter, your altimeter will read zero when you are on the ground at that airport. DOD approach plates, however, list all altitudes in standard QNH format. Sometimes, on request in IFR with no other traffic in the pattern, RAF/RN controllers will give QNH equivalents. If you have to fly an approach using QFE, be sure to use the appropriate HAA/HAT and not the MDA/DH.

Flying the Circuit

You can't believe it, but here it is, clear and a million at your RAF destination. It is the perfect opportunity for some visual training. But beware, the British use some completely different procedures and terms for visual patterns.

Entering the Circuit

Always enter the circuit from the dead side. Parallel the active on the dead side of the circuit at circuit altitude, flying opposite the direction of traffic on the active side, then turn across the runway over the departure end of the active runway and pick up the circuit on the "live side," turning downwind.

Emergency Procedures

Consult the Flight Information Handbook for emergency procedures for the U.K. Specific lost communications procedures unique to the U.K. are listed there. For example, if the departure base is below the landing minimums, a departure alternate in the U.K. must be designated. How to join, cross or depart controlled airspace with lost communications are also discussed.

Low-level Flight

As in most European countries, low-level flying in the U.K. has some very special "do's and don't's." Before flying low-level in the U.K., USAF crews must review the restrictions in the U.K. Military Low Flying Handbook found in FLIP AP-2. This handbook is available at all flight planning facilities in the U.K. and the 435th TAW tactics shop at Rhein-Main AB, Germany. This handbook is very detailed and a cursory review will just not suffice. It could take as long as a full day of flight planning just to adhere to its procedures and restrictions, and to accomplish chart work.

Summary

Well, there you have it. Sharpen your darts and do your homework because that's the best way to fly in the United Kingdom. Start with FLIP GP, and then the AP-2 and ENAME. Then go to the Flight Information Handbook and the U.K. Military Low Flying Handbook if you have to get down in the weeds. All in all, flying in the British Isles can be a very enjoyable experience, even if the language is only "slightly" different.

Cheers!

ABOUT THE AUTHOR

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In the mountains, the charter pilot found himself...

Out of Airspeed, Altitude, and Ideas

by Major Grover C. Tate, Jr., USAF (Ret)
Zihuatanejo, Mexico

A true story that is almost true

"Amigo," I begged, "I have to get out of here today. Once I pass Mexico City I can get on top of this stuff and have clear sailing to Acapulco."

The clearance officer shook his head, turned his palms and eyes heavenward indicating the weather was God's doing, and that the regulations regarding flying in that weather were out of his hands.

I threw him my best look of disgust, and sulked away to the coffee shop to review my situation and any possible options. Three weeks ago I'd lost the services of the propeller governor on my World War II surplus BT-13, and for those 3 weeks I had lived on a cot in the back room of a small street-side store near the airport. I had survived on street-vendor tacos, cookies from the store and coffee. My reason for being there in the first place was to try to establish a charter flight service among several of Mexico's growing resort towns. It was only a year since World War II had ended and I had lots of big ideas but very little money. I had taken a week off from my airplane mechanic's job, and now I was 2 weeks overdue, in serious danger of getting fired, and had not accomplished much toward launching the charter service.

A new propeller governor finally arrived that morning and was working fine, but the weather complicated matters. I had an instrument flight card and the airplane had a reasonably complete set of instruments, but the airport was closed to all traffic with no exceptions. I swilled coffee and sulked.

About halfway through the umpteenth cup of bad coffee the most beautiful woman in all of Mexico, perhaps in all of the world, stopped and asked if she could share my table. She was the epitome of all of the fantasies of all men and surely the envy of all other women. I couldn't move quickly enough and was the height of clumsiness as I rose and held a chair for her. Her black eyes sparkled with amusement beneath sweeping lashes, long enough to give shade to a fair-sized patio. It seemed apparent that she was quite used to creating a fluster among men and she smiled indulgently at me.

"I am Maria Angelita Pineda Lopez," she said.

I had to look at the name on my flight jacket before I could gather enough wit about me to tell her that I was Tommy Slaton, boy pilot, far from his San Diego home and waiting for the weather to clear so that I could get on my way.

"Where are you going from here?" she asked.

I told her that I was going to Acapulco to begin a proposed charter service there and then on up the coast to San Diego.

"That's marvelous," she purred. "I am trying to get home after many, many years away. If you have room for me in your airplane, perhaps I can ride with you to Acapulco, no?"

Special Category Winner, 1983 MAC Flying Safety Writing Contest

There would always be room for this lady even if I were flying a short broomstick, so we made plans. Her somewhat elegant costume wasn't suitable for the rather raunchy cockpit of the BT so she changed into a pair of slacks, one of my shirts and an extra GI flight jacket that was stowed in the airplane. Together we hounded the operations officer until minimum takeoff conditions were reached and the guy signed my clearance, happy to have me out of his hair.

Right after takeoff we hit pea soup, and when we started a climb over the mountains, the weather turned to mud. Then the engine started losing power and winding down to the point we were having trouble just maintaining altitude.

We struggled along until I figured we were somewhere in the middle of the Sierras without enough altitude to clear the tops. So I indicated to the lady that we were turning back and would land on the first flat and clear spot we could find. I could see the ghostly silhouettes of "hard clouds" or mountains all around us and wondered how people managed to get themselves in such tight spots. We were in the bottom of a saucer rimmed with mountains, with an airplane that could not climb over them. I was in a panic and my pretense at heroics didn't work.

"Senor Tommy, correct about 10° to your left and steer toward the light that is shining through the mountain pass," Maria suddenly directed.

"I don't see any pass or any light. Nothing but great big mountains and shadows in the fog," I shouted back.

"Do as I say!!" she commanded so sharply that I reacted without thinking.

After the course correction, it appeared to me that we were just a couple of minutes away from buying a chunk of Mexican mountainside.

"Now, correct about 5° more to your left and aim the nose of your airplane directly at the light," Maria instructed.

"You're seeing things. There's no light," I argued, but I swung 5 more to the left anyway. One piece of mountain is probably as hard as another, so what difference did it make? I thought about trying to find a shallow upslope as soon as I could define the mountain through the fog so that we could try to stall in with the slope. I mentioned it to Maria.

"No, no. Fly as you are, directly toward the light," she insisted.

We were losing more power and, as the old saying goes, were running out of ideas, airspeed and altitude all at the same time. A silhouette of a mountain loomed directly in our flight path and I started a panic bank, but the lady stopped me with a shouted, "NO!!"

We flew right through the mountain and broke out in subdued sunlight with the Pacific Ocean shining bright and clear in the distance. Acapulco rested serenely on its shores and after a frenzied emergency call and a nervous landing we rested on the Acapulco runway, safe and sound.

Maria and I cleaned up a bit, had something to eat and briefly discussed the good fortune that had gotten us there in one piece. She refused to tell me anything of the "light" or of how we virtually "flew through a mountain."

"I have work to do in a puebla that is called Agua Correa, a small place to the north of here. There are people there waiting for me," she explained.

What kind of work could an elegant woman such as Maria have in a tiny Mexican village? I pressed her for more information about her work and her journey but, as with the light, she would say no more.

"But there is no road, only a trail. I'll take you there. We'll find a good spot to land," I offered. "With your ability, we could find a good landing strip in the Holland Tunnel."

"No, senor. I thank you very much. You have been very kind to bring me this far, but I must go the rest of the way by myself. I don't mean to be ungrateful but we are of different places and of different cultures and perhaps you wouldn't understand if I tried to explain. May your flight to your home be a safe and comfortable one and may God go with you." Then she was gone!

I rented some tools, fixed up the BT-13, attended to the charter inquiry and hopped up on through Baja to home. Once there, although I often thought and dreamed of Maria, the reality of life took over. The charter idea died. I got married, went to work as a pilot for an airline and became one more faceless worker in the state of humanity.

About 30 years later, now a senior, silver-thatched flight captain with a potful of

seniority, I applied for the route that was opening up to a Mexican tourist attraction called Zihuatanejo. I got the bid and started learning a little about the town and area before I flew the first flight. The old memory bank did a flop when I saw that a town called Agua Correa was just a few miles from Zihuatanejo. It seemed that was the name of the town where Maria was headed, but time had eroded my memory of that flight and I was not sure.

After enduring all of the public relations ceremonies for the inaugural flight, I rented a car and headed for Agua Correa. It was a small town with no market and only a few small street-side stores. It was quiet, peaceful, like many of the small villages throughout rural Mexico. I asked the first man I saw if he knew of a Maria Lopez.

"Bruja," he answered and pointed to a small house on the next corner. The house was bright pink with brilliant blue posts holding up the tile roof of the low-slung front porch. Soda pop, cookies and a few fruits were sold from a table on the front porch. I looked and then left.

Back in Zihuatanejo, I inquired and was told that the "bruja" was indeed named Maria—Maria Angelita Pineda Lopez! They said that she was a fabled "witch," the finder of lost things, the healer of the sick, the saviour of many lives, the predictor of things to come and the performer of magic. One had only to believe in her. Her fee for an audience was 50 pesos for those who could afford it, and free for those who coudn't.

I raced back to Agua Correa, paid the 50 pesos to a lady on the porch and waited for my audience with the "witch."

I was ushered into the presence of a woman who looked to be at least 100 years old. She wore a brightly-colored voluminous dress that covered her completely. Her hair, the coal-black of the raven's wing, hung loosely down to her waist. Painted wooden combs kept her hair in place. Giant golden earrings adorned her ears and I expected them to ring like wind chimes, as a silent movement of air flowed through the small room. It seemed that the sheer weight of the many bracelets and rings she wore would restrict the movement of her arms. The face—oh, what a face—was round with all of the rivers of Mexico etched deeply into it. The polished brilliant obsidian eyes threw off such sparks that the details of the face were lost.

Not a flicker of recognition intruded into those eyes as she held my hands and told my fortune in Spanish, not a word of which I understood. This could not be my "Maria" of so many years ago. No one could change so much and she would certainly remember me. When she finished with my fortune, she reached beneath a bed in back of her and withdrew a package wrapped in yellowed newspaper. She slowly and carefully unwrapped the package and handed me the flight jacket she had worn during our flight. How had she preserved it so well, I don't know, but it was as new as the day she had worn it on the flight through the mountains.

"I forgot to return this," she said. "It served me well during trips to the high mountains and I thank you for its use. My apologies for keeping it so long, Senor Tommy," she said in perfect English. "May your God go with you the rest of your way," she murmured, and I was dismissed.

ABOUT THE AUTHOR

Major Grover C. Tate, Jr., USAF (Retired), has entered numerous MAC Flying Safety Writing Contests winning several times. Major Tate, a happily retired, 61 year old maverick, resides in Zihuatanejo, Mexico where he is a free lance writer. His flying safety message for "Out of Airspeed" is "a miracle works once in a while, but don't depend on it, Jack." Ex-boxer, ex-pilot, ex-bomber navigator, ex-military officer and ex-other fascinating careers, he's also an ex-big corporation man who now confesses that he's long been marching to the beat of a different drummer.

Flyer Forum

We Fight As We Train

by Colonel Anthony F. DiFerdinando
60 MAW Operations
Travis AFB, California

The "On-Time—Safe or Not?" AWTH article in the March issue of *The MAC Flyer* clearly revealed that there are some aircrew members flying the MAC line who do not understand MAC's mission and how it is accomplished. In the article, the AWTH submitter asked why MAC used the on-time takeoff to measure airlift efficiency. In his opinion, there is so much pressure to achieve on-time takeoffs that it is leading to counterproductive and unsafe situations. He wants to know if there are other ways to measure airlift efficiency and what's the problem with being a little bit late?

To help this uninformed crewmember "get with the program," here are some of the reasons I think on-time takeoffs are important. "We fight as we train," and we are constantly training for wartime on every mission we fly, whether it's a SAAM, an exercise, or only a channel mission. MAC's wartime mission is to get the troops, equipment and supplies to the combatants as quickly as possible. The speed with which the cargo is delivered is vitally important. After all, if speed wasn't important, we could send the stuff on a ship; it would be a lot cheaper. But reinforcements aren't much good after the battle is over. The outcome of this country's next conflict could very well depend on how well MAC does its mission. Think about that!

The author of the "On-Time" article also wanted to know if airlift efficiency is measured in any other way than on-time takeoffs. The answer is—OF COURSE IT IS! The measure of the command's effectiveness is how responsive it is in *delivering* cargo to its destination. On-time delivery is tracked very closely by Headquarters MAC and, of course, by the receiving agency.

So why are on-time takeoffs so important? Because measuring on-time takeoffs is an excellent management tool which, if used properly, can reveal how a wing or base is doing in managing its resources. Getting an airlifter off on-time is a very complex task requiring the orchestration of all of the wing's agencies. However, when a mission is delayed, all these agencies must modify their work schedules, resulting in people and resources being diverted from other tasks just to get the delayed aircraft airborne. This, in turn, can have a serious negative impact on other missions departing after the delay.

A mission delay usually means something went wrong, which merits management attention to see if the problem is correctable. If a wing has an unusually low (or high) overall reliability rate, then management needs to look into the reasons why. Hopefully, the reasons for the poor performance will be identified and corrected. On the other hand, reasons for outstanding reliability can be identified and spread around to the wings so we can all learn how to do our job better.. As you can see, on-time takeoffs are used as a management tool to identify weaknesses and strengths and, ideally, to improve the total operation.

As to the author's accusation that the pressure to make on-time takeoffs is causing crews to fly unsafe aircraft, I have to say that anyone who would do that demonstrates a lack of common sense and poor judgment. Remember, our mission is to get the supplies to the combatant when he needs them. Crashing after making an on-time takeoff is not mission accomplishment. Neither is taking off without cargo or pax just to make an on-time takeoff. In short, on-time takeoffs are important, but not so important that they warrant doing something unsafe or demonstrating poor judgment.

It takes planning, knowledge, leadership ability, and a lot of hard work on the part of an aircrew to move a mission on schedule. The professional crewmember understands the reasons for timely airlift and works hard to make on-time takeoffs in peacetime, so that when they are needed in wartime, MAC can deliver. The professional crewmember understands that only by striving for perfection in peacetime will we be ready for wartime. The professional crewmember knows the mission of MAC!

★

C-20A Gulfstream III

The 89th MAW gets new aircraft

by Captain Gale E. Clouse, Jr.
Associate Editor

Every MAC crewmember will tell you they'd love to fly a bright, shiny-new, factory-fresh aircraft. Few may ever get the chance, but beginning this month a select group from the 89th Military Airlift Wing (MAW) will have that once-in-a-career opportunity. The aircraft: the Gulfstream Aerospace Gulfstream III. The opportunity: delivering the very first G-III, officially designated as the C-20A, to Andrews AFB, the home of the 89th MAW, on 29 September.

History/Acquisition

The 89th will be getting three leased G-IIIs this year (one each in September, October, and November). These new aircraft will be used by the unit to provide worldwide transportation for the President, Vice President, Cabinet members, and other high-ranking dignitaries of the U.S. and foreign governments.

The C-20A replaces the Lockheed C-140B, the venerable Jetstar. According to Major Dennis Boroczk, MAC C-20A project officer, "There will be a one-for-one phaseout. As the C-20As come into the inventory, Jetstars will be retired to the aircraft disposition center at Davis-Monthan AFB, Arizona. By 1989, all MAC-owned C-140s should be out of service."

The number of Jetstars to be replaced include seven at Andrews AFB and four at Ramstein AB, Germany. In retrospect, Colonel Jack Billings, the new commander of the 89th MAW, noted, "Although the Lockheed Jetstar has been a reliable 'workhorse' for special air missions since 1961, its limited eight passenger capacity and restrictive range, along with increasing maintenance requirements prompted the need for a replacement aircraft."

A source selection on the C-20A, originally known as C-SAM, began on 4 October 1982 with consideration of three aircraft: the Gulfstream Aerospace G-III; the Fokker F-28; and the Boeing 737-200. The Gulfstream III won the competition with contract award announced on 6 June 1983. The firm, fixed price contract provides for the lease of three G-IIIs this year with an option to buy these planes in FY 85. It also calls for the purchase of eight C-20As during FY 86-88. Cost in FY 83 is $3.2 million.

Under the MAC operational concept, eight C-20As will be based at Andrews and three will be operated by the 58 MAS, based at Ramstein. Andrews will receive its full complement of aircraft prior to assignment of the C-20As to Europe.

MAC's new C-20As are being produced by

the Gulfstream Aerospace Corporation at its Savannah, Georgia, facilities. Under a teaming concept, Gulfstream will be responsible for the basic airframe, the additional auxiliary power unit (production aircraft), the interior, and normal nav/comm radios and equipment. E-Systems, of Greenville, Texas, will be responsible for overall logistics and the special communications equipment to be installed on the G-IIIs.

Gulfstream III—Proven Performance

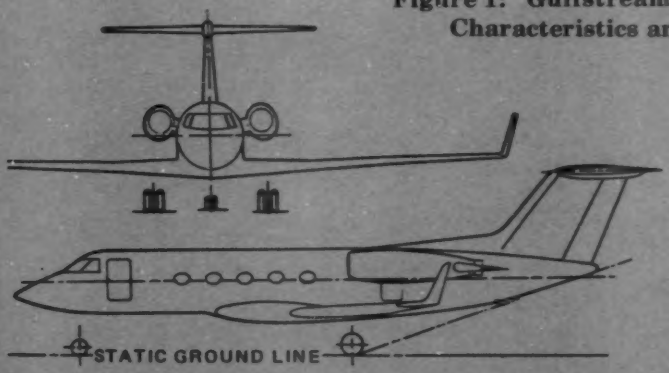
Powered by two Rolls-Royce Spey 511-8 turbofans, the G-III has excellent engines for both airport performance and high altitude cruise efficiency. These engines have over 22.7 million hours of airline service including 2.4 million hours in Gulfstreams. With a shutdown rate of .01 per 1,000 flight hours, which is the equivalent of one shutdown every 100 years at a use rate of 500 hours per year, the safety of the engines is obvious.

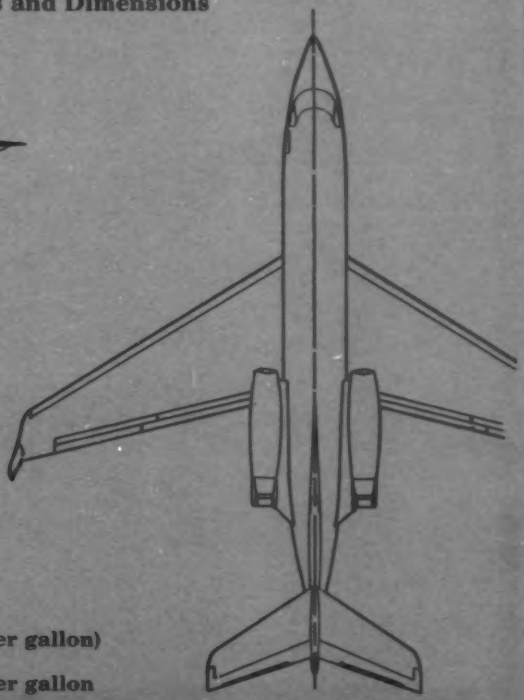
Airlifters can also appreciate the G-III performance characteristics. Fully loaded, it can reach an initial cruise altitude of 39,000-41,000 feet and achieve Mach .85 in a high speed dash. The G-III was evaluated during source selection to meet the requirements of both 1,400 and 2,200 mile legs. The 2,200 mile requirement included carrying 14 passengers and 5 crew, with takeoffs/landings based on sea level pressure, indicated standard atmosphere, +20° C temperature, and a wet runway. Under these conditions the G-III could make the 2,200 mile leg at .80 Mach with a 90 knot headwind, and with a critical field length of only 6,620 feet. At .763 Mach with a 110 knot headwind, the G-III could also fly the 2,200 mile leg. Landing field length under these conditions was evaluated to be 4,100 feet with a landing weight of 48,240 pounds.

Safety—Engineered In

The G-III has been engineered for durability and safety and carefully examined by the FAA. With a first flight in December 1978, the G-III was FAA-certified in September 1980 to meet FAR Part 25 transport category standards and FAR Part 36, Stage

Figure 1: Gulfstream III Certification Characteristics and Dimensions





Certification Characteristics

Dimensions	
Wing Span	77 Feet 10 Inches
Overall Length	83 Feet 1 Inch
Overall Height	24 Feet 5 Inches
Ramp Gross Weight	70,200 Pounds
Takeoff Gross Weight	69,700 Pounds
Maximum Zero Fuel Weight	44,000 Pounds
Maximum Fuel Capacity	28,300 Pounds (6.75 pounds per gallon) 27,250 Pounds (6.50 pounds per gallon

II, noise standards. Figure 1 contains the certification characteristics and dimensions of the C-20A while figure 2 lists selected FAR Part 25 evaluations. The Gulfstream III's structural integrity has been confirmed by the 1.2 million hours of Gulfstream II service and the 39,000 hours of Gulfstream III service. Designed with system redundancy in mind, no G-III single point failure prevents safe flight.

Figure 2: Gulfstream III was certified under these FAR 25 (Transport Category) Certification Requirements

- Basic Design Data Verification
- Design Substantiation
- Design Conformity to Specifications
- Flight Correlation to Wind Tunnel Testing
- Static and Fatigue Testing
- Hydrostatic Testing for Hull
- Cyclic Pressure Testing
- Landing Gear Drop Testing
- Landing Gear Fatigue Tests
- Flight Controls Simulation
- Dynamic Model Simulation
- Failure Analyses
- Component Qualification Testing
- Structural Element Testing
- Ground Vibration Tests
- Control System Proof Load Tests
- Complete Flight Envelope Testing
- Flutter Testing
- Icing Trials
- Systems Function & Reliability Testing
- Performance Testing
- Acoustic Testing
- Flying Qualities Simulation
- Human Factors Compliance
- Windshield Bird Shot Tests
- Flight Guidance System Tests
- Rigorous Single Engine Performance Tests
- Interior Safety Compliance
- Antenna Patterns

Other C-20A systems reflect excellent design features. Dual alternator/converters supply AC and DC power to the aircraft while the flight-rated auxiliary power unit provides backup electrical power. Flight controls feature simple hyrdo-mechanical systems and also have manual backup capability. Hydraulic systems are dual compensated 1,500/3,000 PSI flight and combined systems. These are backed up by utility, auxiliary and emergency systems. The simple fuel system has integral wing tanks which require little fuel/center of gravity management. The dual wheel pneudraulic landing gear has carbon anti-skid brakes.

Passenger comfort and safety is an integral part of the aircraft's design. The G-III can hold a 6,500 cabin altitude at 45,000 feet MSL which means less fatigue for both passengers and crew. The G-III's 10 windows have four panes each for safety, and the windows are insulated for noise and temperature conditions. The G-III can also fly above most of the weather while cruising between 39,000 to 45,000 feet, providing additional ride comfort.

Avionics

State of the art avionics will be a highlight to the 89 MAW crews flying the G-III. Figure 3 contains a listing of selected C-20A avionics. With VHF, UHF, HF, and Satcom radios (production aircraft), cockpit voice recorder, flight data recorder, ground proximity warning system, dual INS, SELCAL, and color weather radar, the C-20A will be among MAC's best equipped aircraft.

C-20A Interior

The G-III is suitably equipped for its executive support mission. The leased G-IIIs will have crew seating for 5 and passenger seating for 14. Storage is available in a large forward right-hand closet and aft left-hand closet. A large galley allows for food preparation and hot and cold beverages. An aft baggage compartment will hold up to 130 cubic feet.

C-20A Training

The initial cadre for the C-20A has already been selected according to Colonel Walt Kross, vice commander of the 89th MAW. "We selected our very best personnel to incorporate the C-20A into our special air

mission fleet," he said. "Our paramount concern in getting the aircraft operationally ready as soon as possible is to continue to and the very best service to our distinguished passengers."

The initial cadre consists of 16 pilots, 8 flight mechanics, and 8 passenger service specialists. All 16 pilots will attend the ground school and simulator course on the aircraft. Eight of the pilots will receive flight training on the leased aircraft at the Gulfstream Savannah plant. Flight Safety International is providing the simulator training, while Gulfstream will conduct the initial flight training. The flight mechanic 4-week initial training was scheduled to be completed in August with the 2-day passenger specialist training to be completed this month. Initial cadre training for the first two crews will be completed prior to the arrival of the first leased aircraft at Andrews.

Figure 3: Selected C-20A Gulfstream III Avionics

	Lease	Purchase
Communication		
VHF AM Simplex	2	2
VHF FM Simplex	0	2
VHF FM Duplex	0	2
UHF AM Simplex	1	1
UHF FM Duplex	1	1
UHF Satcom Duplex	0	1
HF Simplex (Half-Duplex)	1	0
HF Duplex	0	2
Navigation		
VHF (VOR-LOC-GS)	2	2
ADF	1	1
DME	2	2
INS	2	2
Tacan	0	1
Instruments		
Flight Director	2	2
Course Indicator	2	2
RMI	2	2
Airspeed	2	2
Altimeter	2	2
Vertical Speed	2	2
Standby Attitude	1	1
Standby Airspeed	1	1
Standby Altimeter	1	1
Standby Compass	1	1
SAT/TAS/TAT	1	1
Angle of Attack	1	1
Engine Instruments	14	14
Flight Control System		
AFGCS	1	1
Digital ADC/VNAV	2/1	2/1
Attitude System	2/1	2/1
Compass System	2	2
Miscellaneous		
ATC Transponder	2	0
IFF Transponder	0	2
Cockpit Voice Recorder	1	1
Flight Data Recorder	1	1
SELCAL	1	1
Ground Proximity System	1	1
Weather Radar	1	1

Logistics Support

The leased G-IIIs will use contractor logistic support. E-Systems, the logistics contractor, will operate a contractor owned and maintained base supply (COMBS) at Andrews. The COMBS will handle inventory control of parts, materiel supply operations, and aircraft service changes. During the lease period, the contractor will be totally responsible for all Andrews C-20A aircraft maintenance, as well as depot-level maintenance. Other highlights of the logistics support includes an FAA-approved service center, computerized maintenance program, field service representatives, factory technical services, factory engineering liaison, technical communications and technical publications.

Conclusion

The 89th MAW is proudly awaiting the delivery of the first leased C-20A Gulfstream III aircraft. As Colonel Billings put it, "The C-20A will greatly enhance our special air mission fleet. The performance features of this aircraft will guarantee the 89th the capability to provide coast-to-coast, non-stop flights for our distinguished passengers, with maximum fuel economy." In praising the C-20's characteristics, he stated, "The 14-passenger carrying capacity of the C-20A, its improved navigation systems and its self-supporting features will provide fast turnarounds and enhance our ability to operate out of remote airfields we are being tasked to serve, ..."

The 89th MAW has achieved an impressive safety record of over 300,000 accident-free flying hours in a variety of aircraft under its demanding special air mission role. *TMF* wishes the 89th MAW (and the 58th MAS who will get the G-III later) continued success with their new C-20As and enjoyment in having shiny, new aircraft of their very own.

Mishap With A Moral

Failure to "see and avoid" resulted in a... Midair!

It was a beautiful spring afternoon in April, perfect for flying and parachuting. There were only a few scattered clouds and the visibility was 60 miles as a Handley Page HP-137 Jetstream and a Sky's West Parachute Center, Inc., Cessna TU-206 approached Loveland, Colorado. The Jetstream, Air U.S. Flight 716, had departed Denver's Stapleton Airport at 1546 local, and was bound for Gillette, Wyoming, with 10 passengers and a crew of 3. The Cessna, carrying the pilot and 5 skydivers, departed the Ft. Collins-Loveland airport at 1530 and was climbing to 15,500 feet MSL for its second parachute jump flight of the day.

At 1601, the two aircraft suddenly collided in midair, 2 miles east-southwest of the airport at approximately 13,000 feet MSL. The left wing tip and fuselage nose section of the Jetstream struck the left side of the Cessna. Both aircraft suffered immediate loss of control when the Jetstream's number 1 propeller sliced through the Cessna's fuselage. Both aircraft subsequently crashed in adjacent open fields.

Two skydivers in the Cessna were killed during the collision, but the pilot and three other jumpers fell clear of their aircraft, deployed their parachutes and survived with varying degrees of injuries. All 13 persons in the Jetstream were killed when their aircraft impacted the ground in a near-vertical dive.

The National Transportation Safety Board (NTSB) investigation of this mishap centered around three major areas: operation of the Cessna above 12,500 MSL without a Mode C-equipped transponder; actions of the FAA controllers; and failure of the "see and avoid" concept to prevent the collision.

The board determined the pilot of the Sky's West Cessna had operated his aircraft above 12,500 feet without a Mode-C encoding altimeter onboard in violation of Federal Aviation Regulation (FAR) 91.24(b)(4), and didn't have authorization to deviate from the regulation. However, the NTSB also found that this was a standard procedure with Sky's West pilots and that Denver Center controllers routinely allowed these flights to operate at altitudes above 12,500 feet. Additionally, the pilot of the Cessna set 1-2-3-4 in his transponder, a code also regularly used by Sky's West pilots, and stated that it was his understanding that by merely squawking 1-2-3-4, positive radar identification would be provided.

The NTSB also faulted the actions of Denver Center controllers and supervisors. The investigators stated the routine practice of the Denver Center in not questioning Sky's West parachute jump operations or in any way restricting these aircraft from operating above 12,500 feet without a Mode-C transponder indicated tacit approval. The Board also found that FAA management personel at Denver Center didn't take decisive action when they had knowledge of routine parachute jump operations being conducted by Sky's West in violation of FARs.

According to the NTSB, the permissiveness of Denver Center created a situation wherein Sky's West believed they had a standing waiver from regulatory requirements for operations of this type, and it became an acceptable practice not only to Sky's West, but to Denver Center personnel as well. The Board also felt the center's permissiveness generated an atmosphere of

complacency both at the center and with Sky's West operation.

But despite the violations of FARs and the complacency of the Sky's West operators and the center controllers, the incident still could have been prevented if both aircrews had followed proper "see and avoid" procedures.

The investigators determined the pilot of the Sky's West Cessna could have seen the approaching Jetstream in sufficient time to take evasive action. But there were several reasons the pilot didn't sight the Jetstream. According to the Cessna pilot, he was not looking for traffic because he was in a climbing left turn with his attention focused on the ground as he approached the jump area. The pilot also believed he was being protected by ATC while flying in the drop zone, even though the pilot had not yet advised ATC controllers of his flight.

The NTSB believed the Cessna pilot had a responsibility to ensure the airspace was clear of traffic or other hazard during the operation. They stated it would have been prudent for the pilot to periodically lower the aircraft's nose, level the wings and intently scan the airspace around his aircraft for conflicting traffic.

The Board was also able to determine that the Cessna was visible to the pilots of the Jetstream for a 30-45 second period just prior to the midair. However, since ATC had not advised the crew of any traffic (the Cessna in this case) they probably weren't scanning for a specific target.

NTSB research revealed several factors that influence a pilot's detection of other traffic. Locating another plane depends, first of all, on a pilot's expectations of finding a target to which the pilot has been alerted. Next it depends on the pilot's physical well-being. Finally detection depends on how the pilot time-shares the instrument scan, outside scan, and the techniques used in searching for airborne targets. If a pilot assumed he was protected by ATC and was fatigued, bored, preoccupied or distracted, his ability to scan the airspace, watch cockpit displays, fly the aircraft and monitor ATC communications would be impaired.

The Board reported that a NASA study of near midair collisions indicated half of the 78 reported near-misses involved one aircraft not known to ATC. According to NASA, many pilots under radar control believe they will be advised of traffic and, therefore, tend to relax their visual scan for other aircraft until warned of their presence. Yet pilots ignore the fact that ATC controllers can't inform pilots of traffic that isn't visible on radar, nor can they provide separation from such traffic. In the report, NASA urged pilots to exercise the highest level of vigilance for other traffic, *regardless of airspace or radar services being used.*

Although the NTSB recognized the limitations of the "see and avoid" concept, they believed that strict adherence to existing FARs and procedures published in the Airman's Information Manual could possibly have prevented this mishap.

Probable Cause

The NTSB determined the probable cause of this mishap was: (1) the failure of the Sky's West Cessna pilot to establish communications with Denver Center and his climbing into controlled airspace above 12,500 feet without authorized deviation from the altitude encoding transponder (Mode-C) requirement, (2) Denver Center's practice of routinely condoning Sky's West parachute jump operations above 12,500 feet without a Mode-C transponder, and (3) the failure of the pilots of both aircraft to "see and avoid" each other.

Applications to MAC

When was the last time you reviewed the efficiency of your clearing procedures or, for that matter, monitored how well your fellow crewmembers clear? MAC aircrews fly all over the globe, and in a lot of these areas, radar coverage is spotty at best. Keeping your head out of the cockpit and the eyeballs moving might be all that keeps you and your crew from becoming another midair collision statistic.

—Adapted from NTSB-AAR-81-18

Excellence in Airmanship

Left to right: Capt Stephen B. Frye, IAC; 1Lt James A. Sgueglia, CP; Maj Terry G. Perkins, FEAC; TSgt Obert D. McDanel, IFE; Sgt Stephen F. Curran III, FE; 1Lt Philip A. Angeron, CP.

Major Terry J. Perkins and crew, 30th Military Airlift Squadron, McGuire AFB, New Jersey, had just completed the second touch and go landing of a routine training mission when First Lieutenant James Sgueglia, in the left seat, called for gear retraction. Major Perkins, the flight examiner in the right seat, noticed an in-transit indication on the left bogie indicator prior to raising the gear and directed the scanner, Sergeant Stephen Curran, to investigate. At the same time, the control tower advised the crew they appeared to have a left main landing gear problem with that gear hanging loose, although still attached to the aircraft.

Major Perkins directed Lieutenant Sgueglia to turn toward Coyle VOR and avoid flying over populated areas in case the bogie should come off. While in the turn, the crew felt the aircraft lurch sideways and knew that the gear had indeed come off.

After declaring an emergency, Major Perkins directed a crew position change. Captain Stephen Frye, an instructor pilot got in the copilot's seat while Major Perkins assumed the pilot's seat. The crew then initiated a "conference skyhook" with HQ MAC, 21st AF and Lockheed Aircraft Corporation specialists to

discuss various strategies in coping with this situation, which is not addressed in the flight manual.

After discussing the various options, all agreed that a landing at McGuire AFB with the right main and nose landing gears extended seemed the best alternative. Major Perkins then directed all loose equipment be removed from the flight deck and secured in case the aircraft "cartwheeled" during landing. He also directed that extra fuel be jettisoned to lower landing weight, decrease approach speed and reduce the possibility of fire after landing. When all this was accomplished, only the most critical phase of the flight remained—the landing.

Major Perkins took control of the aircraft for the landing. Since no single checklist covered the emergency situation, the pertinent information from three separate checklists was combined and used.

Major Perkins had to contend with a left crosswind while trying to angle the aircraft for touchdown on the right landing gear. As the aircraft touched down, Major Perkins, with the help of Captain Frye, applied full right rudder, aileron and brake. At this point, the crew expected the aircraft might careen dangerously to the left. Major Perkins was able, however, to keep the aircraft level until the airspeed reached 60 knots, approximately 4,000 feet down the runway. When the aircraft finally came to a complete stop, the nose wheel was only 4 feet left of the runway centerline. Incredibly, and due most certainly to Major Perkins' superior skill, judgment and coordination, the landing resulted in minimal damage to the aircraft and no injuries to the crew.

The calm, cool and professional performance exhibited by Major Perkins and his crew under such extreme pressure, clearly averted a potentially catastrophic accident. The superior performance of the entire crew exemplifies "Excellence in Airmanship."

Major Peter H. Passchier and crew, 55 AAS, Rhein-Main AB, Germany, were flying a C-9 aeromedical airlift mission to Dhahran, Saudi Arabia, to airevac a seriously ill patient to Germany. A max fuel load of 35,000 pounds was onloaded at Dhahran and this, combined with the 110° temperature meant the aircraft would be operated near the limit of its takeoff performance capability. Takeoff calculations showed the critical field length took 8,200 feet of the 11,811 feet available on runway 34L.

During the takeoff roll the crew felt the aircraft veer to the left and begin to vibrate as they approached the 139 KIAS V_1 decision speed. Within 2 knots of V_1 speed, a loud explosion rocked the plane and the left wing dipped toward the runway.

Realizing the possibility of engine damage due to a blown tire, Major Passchier aborted the takeoff. Using a combination of thrust reversing, nose wheel steering and wheel braking on the right side, he smoothly brought the aircraft to a stop in a picture-perfect high speed reject. The crew then assisted the rapid evacuation of the patients.

Later investigation revealed that both left main tires had exploded and separated from the wheel, causing damage to the left flap, gear doors, hydraulic lines, and electrical wiring. Rubber ingestion was also discovered in the left engine.

The superior airmanship and crew coordination of Major Passchier and his crew overcame a hazardous situation, averted a potentially catastrophic accident and safely recovered a crippled aircraft. Major Passchier and his crew are well deserving of the "Excellence in Airmanship" award.

(Photo of crew not available).

RAF Upper Heyford, U.K.

(elevation: 438 feet)

Located in predominantly agricultural south central England, RAF Upper Heyford is 50 miles northwest of London. Within 75 miles of the field are RAFs Alconbury, Mildenhall, and Lakenheath, all of which are suitable as alternates. The highest point within 25 miles is a tower 1,136 feet MSL, 21 miles southeast. The emergency safe altitude within 100 miles is 5,000 feet.

Upper Heyford has one runway: 27/09, 9,605 feet long and 200 feet wide. There are taxiways on both sides of the runway and the parking ramps are to the south. Circling is not authorized south of the runway.

Published approaches to Upper Heyford include high and low tacan, ILS/DME, PAR, ASR and circling. Runway 09 is equipped with nonstandard British Calvert approach lights, an overrun, runway end identifier lights, jet barrier, VASIs, arresting gear and high intensity runway lights. When approaching or departing Upper Heyford, be alert for concentrations of birds in the vicinity of the field. If you spot any airfield changes not included in the airport qualification programs, notify your MACAF/DOT so they can update these programs.

—Adapted from AQP 50777

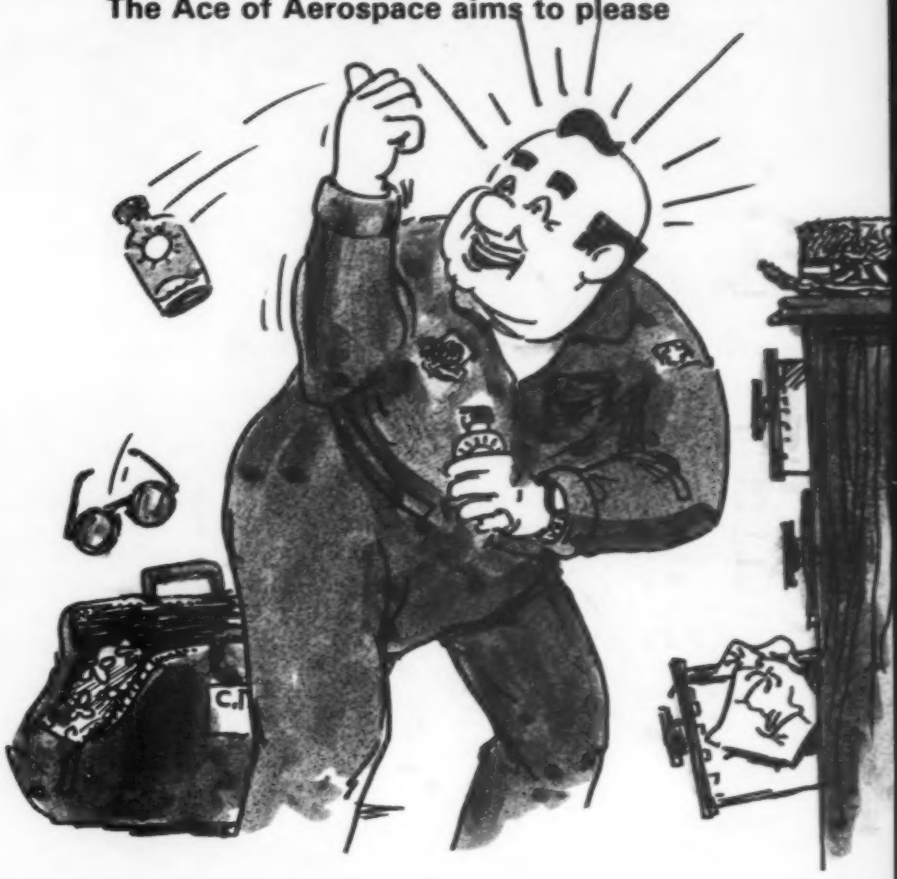
At 1 mile, runway 09. Low terrain on approach to this runway may cause an illusion of being above the glide slope.

On short final, runway 09. Notice the road passing through the overun. Also be aware that the thresholds to both ends of the runway are approximately 21 feet lower than field elevation.

On short final, runway 27. The parking ramps are to the left.

C.R. TERROR

The Ace of Aerospace aims to please



Pack up the bags and load up the Jag, Sammy m'lad. We are headin' for sunny Flor-ree-dah, doo-dah, doo-dah!" MAC's Most Senior Major sang merrily to his trusty copilot, while nonchalantly throwing knick-knacks and notions over his shoulder and into his wide-opened baby-blue B-4 bag. "Now, let me see. Suntan lotion? Check! Suntan oil? Check! Check and double check!" The Happy Heliophile continued his almost nonstop soliloquy as Long Suffering Sam looked on in wide-eyed amazement, when suddenly, the words of the Mental Midget hit Sam's shocked senses.

"Do you mean," he began gradually, "that *you* are going down to Florida to fly with....?"

"Sammy, Sammy!" interrupted C.R. "Not just *moi*. *We* are going down to sunny Hurlburt-by-the-sea, PCS-like. Max and Blinky, and me and thee. *We'll* all be together again, just like old times, eh what?"

"That's just great," winced Sammy, half-crying, half-sighing. "I can hardly wait."

Several weeks later, the Fearful Foursome found themselves all checked out in an AC-130H "Spectre" gunship. Although a formidable task, Sam, Max, and Blinky had completed the course with flying colors, thankful, no doubt, that the Ace of Airlift had washed back three classes for remedial basic flight training. But C.R. managed to come up with a marginal Qual Level-1 anyway, although leaving half of northern Florida a barren wasteland from his misdirected shots. Still, he couldn't escape the inevitable confrontation with his old nemesis, Colonel Fang.

"Terror, I don't know how you did it, but I suppose you're qualified once again. Just please promise me one thing before I go fishing?"

"Oh, yessir, sir. Just ask and I'll do," replied the Humble Aeronaut.

"Promise me you won't go out over the Gulf on any practice missions while I'm out there!"

"Yes, sir, colonel. Anything you say, sir." And with that, C.R. backed out the door and into the briefing room to prepare for the next day's mission—a live fire training mission north of Hurlburt.

"Oh, Major Terror. I've been looking for you." The head of current operations, Major Harold "Hapless" Hoke, was on the prowl again. "We've had a change to our mission set up for tomorrow," he began. "Instead of the north range, you'll be going out over the Gulf to shoot up an old Navy tug boat." Sammy, sensing the impending doom, tried to steer his Mentor away from certain trouble.

"You can't do that, Boss," prompted Sammy. "Colonel Fang practically gave you an order not to go out overwater as long as he was...."

"Tell the Navy we aim to please," C.R. chortled punfully to Hoke. Then turning to Sam he said, "Sam, we can't very well turn down a mission simply because it's overwater, now can we? You and Blinky put the finishing touches on the flight plan, m'lad. I have an important engagement at the 'Cow's Breath Saloon.'" With that, C.R. bounded out the door and into his Jag, leaving his stalwart crew to prepare the next day's flight plan.

The next day dawned bright, full of promise for the upcoming mission. Even the Herky Honcho was at his best, starting all the gunship's engines without a single pilot-induced "stop start." The takeoff also went smoothly, as well as the trip out to the range. Once in the air, though, C.R. started regressing to his old ways, falling asleep almost before the gunship was level and on autopilot.

"Better wake up Major Terror," reminded Blinky. "We're just about at the eastern most portion of the range."

"Oh, Boss? Boss? Major Terror!!" Sammy intoned, shaking the Slumbering Aerophile.

"What? Who? Man the lifeboats! Women and children first. Me next. Huh? Crimenently, Sam," C.R. said, awakening slowly from his bout with Mischievious Morpheus. "Don't ever startle me like that again. By the way, where are we?"

"Just about ready to enter the range, Boss," answered Blinky. "Suggest a turn to one-eight-zero. Target should be at our 12 o'clock, 8 miles."

"That checks, nav," said the copilot, reinforcing the nav's computations.

C.R., not waiting for any more dialogue, threw the gunship into a hard left bank, pushing the left rudder all the way to the stop.

"Battle stations, men. Load the guns and stand by to fire." Sammy, Blinky and Max were all holding on to their shoulder straps as the hurtling Herk plummeted toward the blue Gulf waters.

"Boss, you've got a little more than 30° of bank. Shouldn't you roll out some bank and ease up on the rudder?"

"Sammy, I was flying these machines before you knew enough to be wet behind the ears. Remember my crew briefing: I fly, you feather." The Unspecial Operator finally rolled the Spectre out at the prebriefed altitude and started an orbit of the target area, all eyes searching for the surplus Navy tug. Suddenly, the Hawk-eyed Herky Honcho spotted what he thought was the tug. "There it is, men. Four points off the port bow."

"I don't think that's it, sir," suggested Blinky. "Our target should be a little further south and west. What you've spotted is probably a private fishing boat. Besides, that boat is about 5 miles outside our area."

"Nonsense nav," scolded C.R. "You'd better get those gauges back there recalibrated. That's the target and we're rolling in 'hot.' Set up

for the 20 mike-mike, crew." With that, the Gunship Guru deftly put the pipper on the gaily painted "tug" and "pulled the trigger." As if suspended on a pendulum, the gunship shuddered under the onslaught of 20mm. "Yahoo! Take that, and that, and that!" yelled C.R. over interphone, deafening everyone within the sound of his cackle. Suddenly, the boat was no more, cut neatly in half by the hail of bullets from above. "We got it, crew. Scratch one surplus Navy tug. Let's go home, Sam."

Sam, Blinky and Max peeked through their fingers as C.R. pushed in max power and climbed the AC-130 back to cruise altitude.

"Uh, shouldn't we stick around and look for possible survivors, Boss?" asked Sam, searching for any sign of life.

"Good grief, Sammy. There wasn't a soul within 50 miles of that boat. Now just relax and pass me up a cup of coffee. This gunship business is thirsty work."

As C.R. and his crew were enroute back to Hurlburt, a UH-60 passed them, heading in the opposite direction. The Silver-tongued Fox couldn't resist the temptation, and asked the Blackhawk where he was going in such a hurry, on UHF guard, of course.

"Hey there, Blackhawk-in-a-hurry, got your ears on?"

"This is Jolly 23. Go ahead, unidentified aircraft."

"Hey, good buddy, this is the old Gunslinger from the beach. Where you guys goin'? Looks like ya'll got the pedal to the metal."

"Roger, Gunslinger. Jolly 23 is on an actual SAR out to restricted area 1530. Seems a fishing boat blew up. Luckily, it looks like the fishermen are all right. Bruised up, but okay."

"Good deal, good buddy. This is the Gunslinger signing out, now. Ya'll keep the shiny side up and we'll see you on the flip-flop."

"Jolly 23, roger."

After they had landed back at Hurlburt and finished the engine shutdown checklist, C.R. noticed a helicopter approaching the helipad, which just happened to be next to their parking spot.

"Hey, Boss," wondered Sam aloud. "I wonder if that's the rescue bird that passed us in such a hurry?" Sammy didn't have to wait long for an answer. The helicopter, call sign Jolly 23, landed in a cloud of blowing sand and grit. Before the Blackhawk's rotors had ceased turning, a soaking wet figure hurtled out of the door and stalked over to the spot where the Pudgy Pilot was standing.

"Colonel Fang, sir. What happened to you?" C.R. asked as politely as he could, noticing the colonel's purple face and clenched fists.

"Major Terror, I thought I gave you the most specific instructions not to venture into the overwater target areas while I was out there. And I'll give you three guesses as to who was on that boat you so neatly cleaved in two, Major Terror."

C.R., scraping the toe of his boot along the ground, looked down sheepishly and answered, "Uh, you, sir?"

"Perceptive, Terror. Very perceptive," Fang screamed hysterically at C.R. as the PJ led the battered colonel to a waiting ambulance. "You'll pay for this, Terror! You'll pay for this," Fang yelled over his shoulder.

"Looks like Colonel Fang was a tad upset with you, Boss," hinted Sammy.

"I think you're right, Sammy m'lad," the Unholy Terror philosophized. "Of course, I'm not sure what he meant by 'paying.' I'm sure the government will reimburse him for his boat."

"I'm not so sure he meant the boat, Boss," Sam replied pensively. "I'm not so sure."

Quick Stoppers

Cleared for a 180?

According to the tech orders, a Starlifter should have no difficulty in accomplishing a 180° turn on a runway 150 feet wide. Right? Not necessarily so, as a C-141 crew recently discovered. After back-taxiing down the 150-foot wide runway prior to departure, the C-141 was cleared for a 180° turn. The aircraft commander deftly began the turn to the right, but stopped and deplaned the scanner when it appeared the nosewheel was coming perilously close to the runway edge. The scanner quickly determined the nosewheels were about a foot away from the edge, but informed the AC the wheels were tracking back towards the runway centerline. Reassured, the AC reboarded the scanner and pressed on with the turn. Unfortunately, the Starlifter's nose gear shifted towards neutral and departed the prepared surface. Later, following extensive work with pneumatic bladders and sections of pierced steel planking, the aircraft was raised and repositioned on the runway. Since one nose tire was cut, both tires were changed and the nosewheel steering mechanism was inspected. The inspection revealed no defects and verified that the prescribed 60° of nosewheel deflection could be attained. But the next day the aircraft was again unable to complete the 180° turn on the runway. Finally aligned with the runway after some assistance, the Starlifter departed and flew its next leg uneventfully. At subsequent stops the NLG paddles were adjusted, the nose tires serviced and the NLG scissors found to be loose and retorqued.

Following a safe return to home station, the aircraft was subjected to extensive taxi tests which revealed the B-model's turn radius *still* exceeded 150 feet. Maintenance personnel then adjusted the tension on the main nosewheel steering cable to within T.O. limits and the wide-turning airlifter completed further taxi with a turn radius less than the 137 feet specified in the flight manual.

Those of you flying C-141s and C-5s should be alert to less than optimum turning performance when attempting 180° turns in close quarters. If it doesn't look or feel right, stop, deplane the scanner and get assistance if required. Putting the nosewheels or a main landing gear in the mud can damage an aircraft, cause extensive runway closures and most certainly result in an acute case of embarrassment to the crew involved.

"I Said *Simulated* Engine Failure!"

A "simulated" engine failure turned very realistic for the crew of a UH-1N recently. They had just completed 2 hours of a routine currency sortie and were busily practicing transition maneuvers and emergency procedures. On downwind, the IP took control of the aircraft and initiated a simulated single engine failure by reducing the number 1 throttle to flight idle. He then ran the appropriate bold face procedures, checked for the presence of fire and began a power available check. As the number 2 engine approached its limits, the crew heard a muffled bang and the helicopter began a slight left yaw. The IP immediately lowered the collective, started a right turn into the wind toward a suitable landing area and confirmed the number 2 engine had just failed. Because the number 1 engine was still in flight idle (remember the simulated failure?), he remained in autorotation and increased the number 1 throttle. Once he had the throttle full open, he slowly applied collective and managed to arrest the helicopter's descent at approximately 150 feet AGL. The crew was then able to initiate a slow climb and made an uneventful "actual" single engine landing on a parallel taxiway.

Gear? What Gear?

The CT-39's mission was a routine passenger run—routine, that is, until the gear was raised after takeoff. When the gear handle was raised, the right main gear indicated down and locked although the light in the gear handle was out. The crew calmly coordinated a pass by the tower, but were unpleasantly surprised when the tower informed them the miniliner's *nose* gear was down and both main gear were up with the gear doors closed.

Following a conference skyhook, the Saberliner crew accomplished landing gear emergency lowering procedures and were relieved to see three green lights illuminate. When another flyby verified all gear appeared down, the crew completed an uneventful landing. Although gear problems are not unusual for CT-39 crews, this one was more complicated because landing gear position indicators were improperly installed.

Strike Two

The C-130E was scheduled for a fuel bladder resupply mission and had 5,000 gallons of fuel "sloshing" in the rubber tank. The crew received a briefing from the USAF forecaster and noted no thunderstorms forecast for their route of flight. There were also no weather warnings or meteorological advisories in effect for their departure. Although start, taxi and takeoff were normal, the crew quickly flew into an area of unforecast rainshowers. Passing 4,000 feet in IMC, there was a loud bang accompanied by a purple flash in the copilot's upper right front windshield. The loadmaster quickly advised the pilot the number 2 HF antenna was hitting the side of the fuselage. The crew declared an emergency and coordinated an immediate return to their departure base.

Enroute to the initial approach fix at 5,000 feet, the crew experienced a repeat of the bang and flash routine, but was able to safely complete the approach and landing. Maintenance discovered three holes in the radome, requiring radome replacement. The HF antenna had been severed near the aft mount, but there were no burn indications. The navigator reported the C-130's radar had passed all preflight checks satisfactorily and that he had seen no thunderstorm activity on the scope during the departure or the recovery. It seems this overseas base did not have a weather radar and a thunderstorm had snuck up on the base undetected. Sometimes it's just not your day.

Notable Quote

They that give up essential liberty to obtain a little temporary safety deserve neither liberty nor safety.

Benjamin Franklin (1706-1790)

After Deadlines

15th ANNUAL AIRLIFT ASSOCIATION NATIONAL CONVENTION will be held 21-23 October 1983 at the Chase Park Plaza Hotel in St. Louis. The theme of the convention is "Enhancing Airlift: Decisions for Today." Registration fee is $80 per person, or $65 prior to 20 September. Partial registration for Saturday, 22 October, (1-day only), is $50 per person, or $45 prior to 20 September. Airline discounts are available for attendees. For registration materials, write: Airlift Association Convention, P.O. Box 193, Scott AFB, IL 62225. Address hotel registration inquiries to the Chase Park Plaza Hotel, 212 North Kingshighway, St. Louis, MO 63108, or call (314) 361-2500. Toll-free outside Missouri, 1-800-325-4933. The Convention Project Officer is Major Dennis Murphy, 375 AAW/DOX, Scott AFB, IL 62225. Permissive TDY is authorized for this event with the approval of your commander.

193rd ELECTRONIC COMBAT GROUP (ECG) REJOINS MAC—On 1 March 1983, with the consolidation of special operations forces under MAC's new 23rd Air Force, the 193rd ECG, Middleton, Pennsylvania, a unit of the Pennsylvania Air National Guard, rejoined the MAC ranks after 16 years in the Tactical Air Command. The 193rd, in its 27th consecutive year of accident-free flying, operates C-130Es in carrying out its electronic and psychological warfare mission. On 27 April the 193rd achieved a significant milestone of 100,000 hours of accident-free flying. *TMF* salutes the 193rd and wishes them continued safety successes.

FINED FLYING OBJECT—The uncertificated "operator" of a soaring lawn chair, which lofted to an altitude of 16,000 feet with the aid of 42 helium weather balloons on July 2, 1982, has paid a $1,500 fine for various infractions of Federal Aviation Regulations. During his 90-minute "flight," the arm-chair pilot intruded hazardously into federal airways and was spotted near several commercial jet aircraft. He finally crashlanded after shooting out some of the balloons with an airgun. Information courtesy: FAA General Aviation *News*.

89th NEEDS PILOTS—The 89th MAW will hold interviews for pilot applicants on 20-21 September 1983 and on an individual basis through March 1984. Pilots interested in this challenging special duty assignment are urged to apply now. The 89th MAW operates the C-12A, C-9C, C-135B, C-137B/C, C-140B, and the new C-20A Gulfstream III. Applicants must have 3,000 flying hours, 4 years as a rated pilot, 200 hours of instructor pilot time, and a current instrument rating. You must also be a major or below and be eligible for reassignment within 15 months. For more information, contact Captain Donna Bullard, HQ MAC/DPROS, Autovon 638-4967.

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Touch 'n Go

AIRLIFTERS "PLAY" FIGHTER MAC-MAN

Idea for this MAC version of a popular video game courtesy Major Michael R. Gallagher, HQ USAF Directorate of Plans.